Analysis of Program and Project Management Innovation Best Practices

- PROGRAM FACT SHEET -

Program Objective

The objective of this program is to research those programs and projects which have demonstrated apparent success, analyze these programs and projects using contemporary industrial and systems engineering research methods, design new program and project management and training system tools and transfer new program and project management skills and knowledge to current and future program and project managers.

Program Sponsor

This program is sponsored by the NASA Program and Project Management Initiative and the NASA Office of Training and Development, Dr. Edward J. Hoffman, Director.

Program Team

The Principal Investigator is Dr. Brian M. Kleiner, Associate Professor of Industrial and Systems Engineering at Virginia Polytechnic Institute and State University (Virginia Tech). Subcontracting for Virginia Tech is John Newcomb, President of Scientific Management, Inc. Graduate research assistants complete the team.

Selection of Projects for Analysis

Projects are identified and examined for possible inclusion. Systematic selection criteria are applied to prospective projects. Projects include NASA projects as well as projects from the Department of Defense and those in the commercial sector. The candidate list is maintained and updated as projects develop in order to continually provide the most recent and pertinent information. The list is periodically reviewed with NASA such that appropriate selections for the next project to be studied can be made. An application process is used for prospective project teams to indicate their interest in being included for study. Two general types of programs or projects are included:

- **mature projects** - previously performed projects which are available for study will be selected.

- **new projects** - project managers of new projects may desire the opportunity to be studied concurrent with receiving advice from the researchers about project management in general and the application of the best tools and practices accumulated to date. The project team accommodates such requests as directed.

In the first phase, NASA headquarters selected four projects for analysis and documentation. These projects were:

{ NEAR (Near Earth Asteroid Rendezvous) - APL/NASA
{ MSTI (Miniature Seeker Technology Initiative) - JPL/NASA
{ HSR (High Speed Research) NASA Langley
{ AGATE (Advanced General Aviation Transport Experiments) - NASA Langley

Six projects are planned for Phase II, during the period July 1997-June 1998.

Analysis of Selected Projects

A case analysis is performed for each project selected. This consists of first performing comprehensive research on the individual project selected. The project site is then visited and the project personnel are interviewed. Within a framework of systems engineering and the NASA project life cycle, a sociotechnical systems analysis is performed to identify the project variances and key variances, the practices and key practices, and to gain an understanding of how the minimization of variances and management of key practices contributed to program or project success. The analysis also identifies other key factors in the personnel subsystem, technological subsystem, project design subsystem and environmental subsystem which contributed to success.

Design of Program and Project Management Tools and Training System

Analysis results are used to design and develop comprehensive case studies. The case is first reviewed with the key project personnel in order to receive the project team's assessment and specific comments. The STS analysis also allows the development of case exercises to be used in PPMI and other educational settings.

Key practices and tools which are considered generalizable to other programs and projects are organized in a best practices database for use by other programs and projects and are posted on the program's homepage.

Transfer of Program and Project Management Skills and Knowledge

The program has an informative homepage at **http://mgdsl.ise.vt.edu/nasa/**. The individual cases and supporting materials are presented in PPMI training and education courses at Wallops Island.

Additional activities include:

- **PPMI project dissemination** - Briefings about the program are conducted.

- **Case dissemination** - NASA Centers may develop an interest or need to receive a formal presentation of a particular project case or series of cases. They may also desire that such presentation take the form of "in-house" training, using the same case method and exercises used at Wallops Island.

- **Best tools and practices dissemination** - NASA Centers may also be interested in the accumulated knowledge (across all cases) of program and project management best (i.e. generalizable) practices and tools. This may be of particular interest to newly formed teams/projects.

- **Project organizational and management development** - New program or project managers can have skills and knowledge transferred from researchers and others from the PPMI/Training and Development team as well.

for more information:

Dr. Edward J. Hoffman

NASA Headquarters
Code FT
Washington, D.C. 20546
202-358-2182 fax 202-358-4164
http://www.hq.nasa.gov/ edward.hoffman@hq.nasa.gov

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Analysis of Innovation Best Practices Application

1. **Today's Date:** _____

2. **Are you interested in:**
   - ☐ **A completed or ongoing project to be considered for a case study**
   - ☐ **Receiving project management technical assistance on a new or ongoing project**

3. **Please check and list from where the program/project is primarily managed:**

☐**NASA**	☐**DoD**	☐**Industry**
Which Center: _____	Which Department/Organization: _____	Which Organization: _____

4. **Program/Project Title**: _____

5. **Program/Project Manager (Name)**: _____

6. **Address:** _____

7. **City/State/Zip Code:** _____

8. **Telephone:** _____ **Fax:** _____

9. **E-Mail Address:** _____

10. **Your Name/Position** _____
    Name Position

11. **Your Signature:** _____
    Signature Date

Institutional Authorization Official

12. **Institutional Official(Name, Position)**: _____

13. **Address:** _____

14. **City/State/Zip Code:** _____

15. **Telephone:** _____ **Fax**: _____

16. **Signature:** _____
    Signature Date

For Official Use Only:

Request No. _____
Date Received: _____

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Program/Project Information

1. Number of Organizations Involved: _____

2. Number of Employees Involved (Approx.): _____

3. Total Money Allocated to Program/Project: _____

4. Total Money Spent on Program/Project: _____

5. Program/Project Start Date (Planned, Actual): _____
Planned Actual

6. Program/Project End Date (Planned, Actual): _____
Planned Actual

7. Program/Project Objective(s): _____

_____

_____

8. Program/Project Main Deliverable(s) (if any): _____

_____

_____

9. In a separate two page, single-spaced document, please discuss the following:

1. **Provide a brief overview of the program/project.**
2. **Explain how the program/project is/was successful.**
3. **Explain how the program/project supports NASA's strategic efforts.**
4. **How are/were the program/project management approaches used innovative?**

Please send the completed application to the following address:

Dr. Brian Kleiner, Associate Professor
Department of Industrial & Systems Engineering
Macroergonomics and Group Decision Systems Laboratory
Virginia Polytechnic Institute and State University
560 Whittemore Hall
Blacksburg, VA 24061-0118